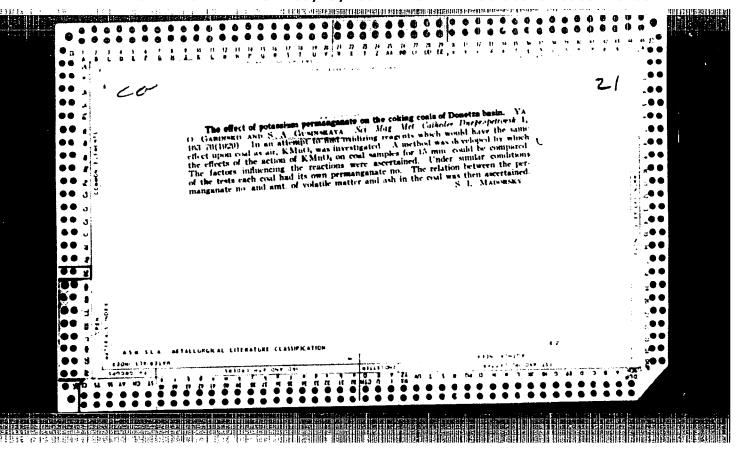AL'TMAN, S.S.; GUSHANSKAYA, P.G.; SYCHEVA, L.F.
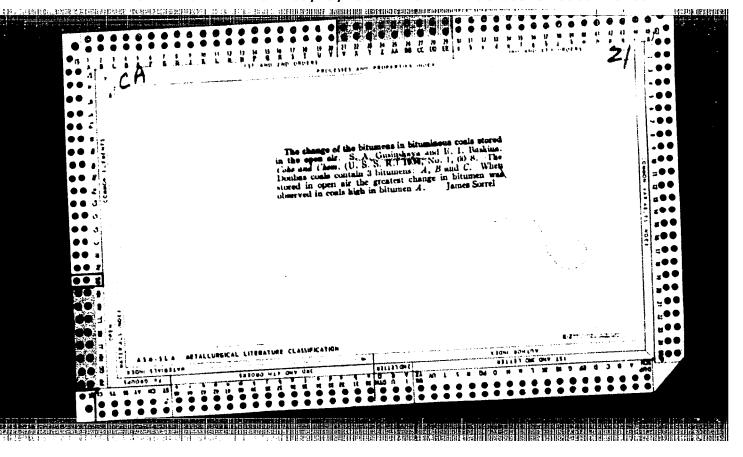
Manufacturing synthetic lubricants from oxidation products of the
Ozek-Suat kerosene. Khim. i tekh. topl. i masel. 6 no.10:22-24
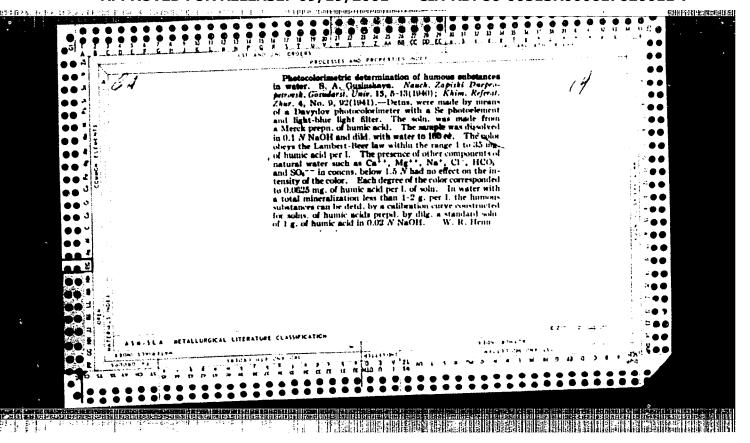0 '61.   (MIRA 14:11)
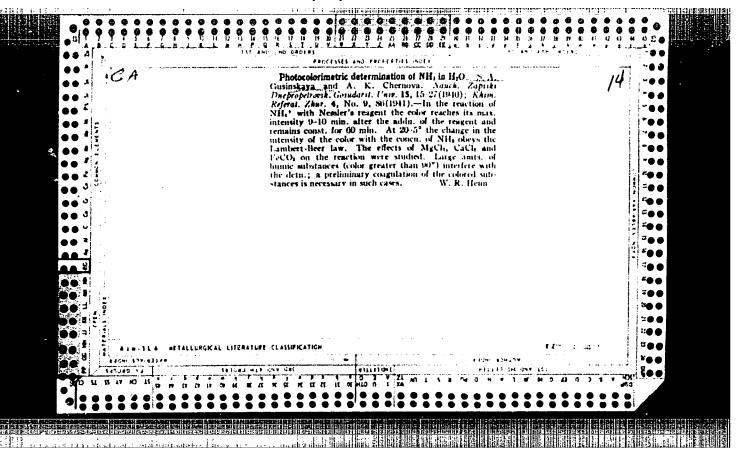
1. Neftemaslozavod im. Shaumyana.
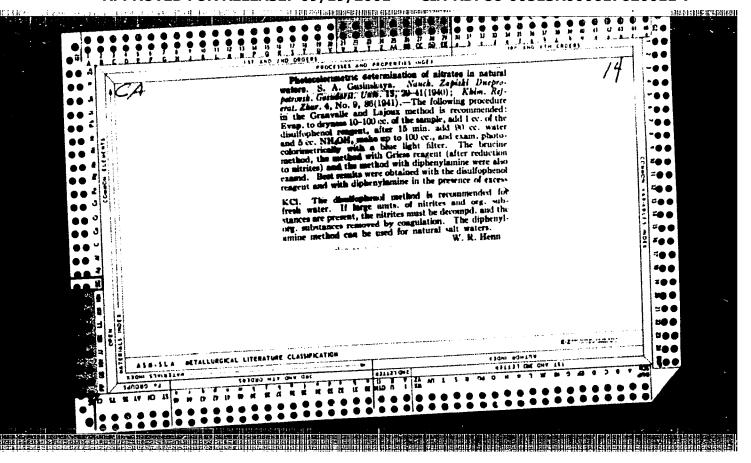   (Lubrication and lubricants)   (Ozek-Suat region—Kerosene)

21

The effect of potassium permanganate on the coking coals of Donetzm basin. Ya
O. GARINSKII AND S. A. GUSINSKAYA. *Sci. Mag. Met. Coiholer Dnepropetrovsk* I,
163 70(1920). In an attempt to find oxidising reagents which would have the same
effect upon coal as air, KMnO$_4$ was investigated. A method was developed by which
the effects of the action of KMnO$_4$ on coal samples for 15 min. could be compared.
The factors influencing the reactions were ascertained. Under similar conditions
of the tests each coal had its own permanganate no. The relation between the per-
manganate no. and amt. of volatile matter and ash in the coal was then ascertained.
S. I. MAINSKY

A 5 M S L A METALLURGICAL LITERATURE CLASSIFICATION

The change of the bitumens in bituminous coals stored in the open air. S. A. Guminskaya and E. I. Raskina. Coke and Chem. (U.S.S.R.) 1956, No. 1, (6) 8. The Donbas coals contain 3 bitumens: A, B and C. When stored in open air the greatest change in bitumen was observed in coals high in bitumen A. James Sorrel

METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

Photocolorimetric determination of humous substances in water. S. A. Gusinskaya. Nauch. Zapiski Dnepropetrovsk. Gosudarst. Univ. 15, 5-13(1940); Khim. Referat. Zhur. 4, No. 9, 92(1941).—Detns. were made by means of a Davydov photocolorimeter with a Se photoelement and light-blue light filter. The soln. was made from a Merck prepn. of humic acid. The sample was dissolved in 0.1 N NaOH and dild. with water to 100 cc. The soln. obeys the Lambert-Beer law within the range 1 to 35 mg. of humic acid per l. The presence of other components of natural water such as Ca^{++}, Mg^{++}, Na^+, Cl^-, HCO_3^- and SO_4^{--} in concns. below 1.5 N had no effect on the intensity of the color. Each degree of the color corresponded to 0.0625 mg. of humic acid per l. of soln. In water with a total mineralization less than 1-2 g. per l. the humous substances can be detd. by a calibration curve constructed for solns. of humic acids prepd. by dilg. a standard soln. of 1 g. of humic acid in 0.02 N NaOH.   W. R. Henn

A·S·M—S·L·A METALLURGICAL LITERATURE CLASSIFICATION

CA

14

Photocolorimetric determination of NH$_3$ in H$_2$O. S. A. Gusinskaya and A. K. Chernova. *Nauch. Zapiski Dnepropetrovsk. Gosudarst. Univ.* 15, 15-27(1940); *Khim. Referat. Zhur.* 4, No. 9, 86(1941).—In the reaction of NH$_4^+$ with Nessler's reagent the color reaches its max. intensity 0-10 min. after the addn. of the reagent and remains const. for 60 min. At 20-5° the change in the intensity of the color with the concn. of NH$_3$ obeys the Lambert-Beer law. The effects of MgCl$_2$, CaCl$_2$ and FeCO$_3$ on the reaction were studied. Large amts. of humic substances (color greater than 90°) interfere with the detn.; a preliminary coagulation of the colored substances is necessary in such cases.   W. R. Henn

PROCESSES AND PROPERTIES INDEX

Photocolorimetric determination of nitrates in natural waters. S. A. Gusinskaya. *Nauch. Zapiski Dnepropetrovsk. Gosudarst. Univ.* 19, 29-41(1940); *Khim. Referat. Zhur.* 4, No. 9, 86(1941).—The following procedure in the Granville and Lajoux method is recommended: Evap. to dryness 10-100 cc. of the sample, add 1 cc. of the disulfophenol reagent, after 15 min. add (?) cc. water and 5 cc. NH$_4$OH, make up to 100 cc., and exam. photocolorimetrically with a blue light filter. The brucine method, the method with Griess reagent (after reduction to nitrites) and the method with diphenylamine were also examd. Best results were obtained with the disulfophenol reagent and with diphenylamine in the presence of excess KCl. The disulfophenol method is recommended for fresh water. If large amts. of nitrites and org. substances are present, the nitrites must be decompd. and the org. substances removed by coagulation. The diphenylamine method can be used for natural salt waters.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

GUSINSKAYA, S. A.

USSR/ Chemistry - Analytical

Card 1/1   : Pub. 145 - 12/14

Authors   : Gusinskaya, S. A.

Title   : Application of mathematical statistics in analytical chemistry

Periodical   : Zhur. anal. khim. 9/4, 245-247, Jul-Aug 1954

Abstract   : The problems of applying mathematical statistics to analytical chemistry are discussed. Statistical methods should be used in analytical determination, but, only when the "actual" content of a substance is unknown. Mathematical statistics can only offer a proper way of estimating the analytical methods and aid in finding ways for further investigation and improvement of the analytical methods. It was also determined that mathematical statistics can in no way substitute for the old reliable experimental analytical work. Two USSR references (1952). Table.

Institution :   The I. V. Stalin Steel Institute, Moscow

Submitted   :   October 22, 1953

GUSINSKAYA, S. A.

U S S R .

Use of mathematical statistics in analytical chemistry.
S. A. Gusinskaya, J. Anal. Chem. U.S.S.R. 9, 3656
(1954)(Engl. translation).—See C.A. 49, 3717i.
B. C. L.

SOV/163-59-2-48/48

18(6)

AUTHOR: Gusinskaya, S. A.

TITLE: Comparisons of the Accuracy of the Chemical Methods for the Determination of Cerium, Manganese, Chromium, and Vanadium in Ferrous Alloys (Sravnitel'naya tochnost' khimicheskikh metodov opredeleniya tseriya, margantsa, khroma i vanadiya v chernykh splavakh)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959, Nr 2, pp 256-263 (USSR)

ABSTRACT: The chemical methods for the determination of cerium, manganese, chromium, and vanadium were compared and the results are given in tables. It was found that the gravimetric precipitation of cerium as iodate with subsequent re-precipitation is most reliable for the determination of cerium. The oxalate method is not suitable for the determination of small quantities of cerium. A titrimetric method was worked out for the determination of cerium for solutions containing 1.5 sulphuric acid. The results are given in table 3. The determination of cerium in dependence of the sulphuric acid concentration in the solution is given in figure 2. A titration with persulphate-arsenite or the spectrophotometric

Card 1/2

Comparisons of the Accuracy of the Chemical Methods for the Determination
of Cerium, Manganese, Chromium, and Vanadium in Ferrous Alloys
SOV/163-59-2-48/48

method over permanganate were suggested as accurate methods
for the determination of the manganese content in iron alloys.
The results are given in figure 4. An amperometric titration
with cerium (IV)-ion is suggested for the determination of
small quantities of vanadium (Fig 5). The colorimetric
method with phenyl-carbazide is recommended for the determi-
nation of chromium in iron alloys (Table 6 and Figs 4 and 5).
A comparison concerning the accuracy of the most sensitive
methods for the determination of cerium, manganese, vanadium,
and chromium in iron alloys is given in table 7. There are
5 figures, 7 tables, and 12 Soviet references.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: December 4, 1957

Card 2/2

USCOMM-DC-61,302

S/593/60/000/0u0/003/007
D226/D302

AUTHOR: Gusinskaya, S.A., Candidate of Chemical Sciences

TITLE: Determination of Ce in ferrous alloys by titration with
methyl orange (M.O.)

SOURCE: Soveshchaniye po khimicheskomu kontrolyu proizvodstva v
metallurgicheskoy i metalloobrabatyvayushchey promyshlen-
nosti. Dnepropetrovsk, 1958. Khimicheskiy kontrol' proiz-
vodstva v metallurgicheskoy i metalloobrabatyvayushchey
promyshlennosti; [doklady soveshchaniya] [Dnepropetrovsk]
1960, 100 - 108

TEXT: A statistical comparison of the accuracy of gravimetric, vo-
lumetric and colorimetric methods for Ce determination indicated
that the best results could be obtained by potentiometric and ordi-
nary M.O. titrations. The electro-technical properties of M.O. are
briefly reviewed and results are given of measurements of the elec-
trode potentials of this compound, in 2N HCl and H_2SO_4, against a
series of oxidizing agents, showing that M.O. is a weak reducing
Card 1/2

Determination of Ce in ferrous ...

S/593/60/000/000/003/007
D226/D302

agent. Its redox potential in 1N HCl fall from 0.98 to 0.78 v over 2 hours. Measurement of the comparative rates of reaction of M.O. with various ions showed that the reactions with Ce^{4+} and MnO_4^- at 20 - 22°C proceeded at very similar rates. Interference from Mn in Ce determination was also confirmed by trials in the presence of other elements (Cr, V, Fe) which did not interfere. Accuracy of the method decreased with increasing Ce^{4+} contents and dilution with $1.5N$ H_2SO_4 is recommended in such cases. Further details of the method are given. In the recommended procedure an alloy sample is dissolved in 1:5 H_2SO_4, treated with HNO_3 to oxidize any carbides, evaporated till SO_3 fumes appeared, cooled, diluted with water, neutralized with NH_4OH, diluted with $1.5N$ H_2SO_4 and oxidized with persulphate/$AgNO_3$. Potentiometric titration is then carried out dropwise with 0.01M M.O. solution, using a Pt and a saturated calomel electrodes, at $\sim$40°C. Accuracy of the method is ± 0.003 %. There are 5 figures, 4 tables and 9 Soviet-bloc references. ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute) Card 2/2

GUSINSKAYA, S.A.

Comparative accuracy of certain methods of determining cerium.
Izv.vys.ucheb.zav.; chern.met. no.3:193-197 '60.
(MIRA 13:4)

1. Moskovskiy institut stali.
            (Iron alloys--Analysis) (Cerium--Analysis)
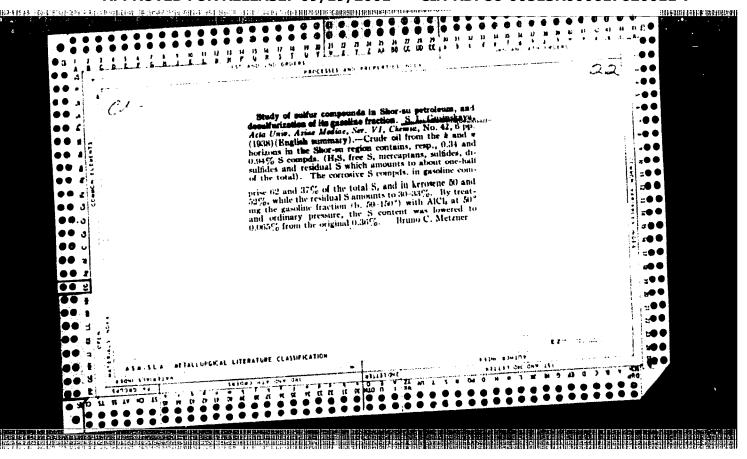   (Radioisotopes--Industrial applications)

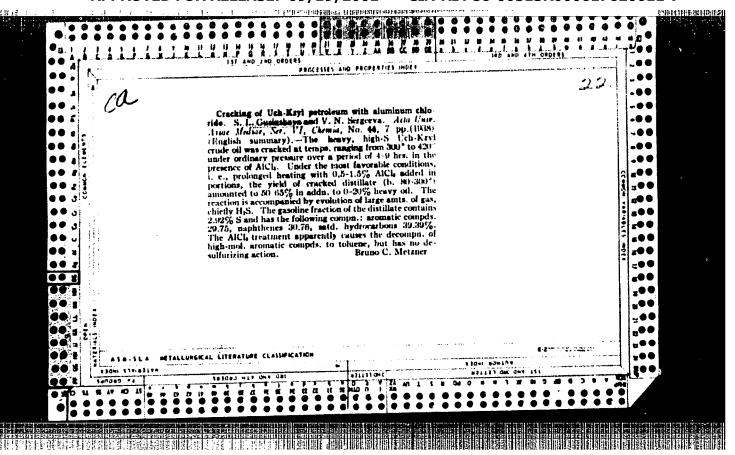TERENT'YEVA, I.A.; PEREDRIYEV, I.F.; VINA, E.A.; GUSINSKAYA, S.D.

Effect of mineral water from Baltiia spring on the secretory function of the stomach, bile secretion and activity of the intestine. Sbor. nauch. rab. vrach. san.-kur. uchr. profsoiuzov no.1:64-66 '64.

(MIRA 18:10)

1. Sanatoriy "Baltiya" na Rizhskom vzmor'ye (glavnyy vrach G.P. Sanzharov).

BC

a-3

Action of ... on 2:3-diketo-
...

R. T.

Study of sulfur compounds in Shor-su petroleum, and desulfurization of its gasoline fraction. S. I. Gusinskaya. *Acta Univ. Asiae Mediae, Ser. VI, Chimie*, No. 42, 6 pp. (1938)(English summary).—Crude oil from the *h* and *w* horizons in the Shor-su region contains, resp., 0.34 and 0.94% S compds. (H$_2$S, free S, mercaptans, sulfides, disulfides and residual S which amounts to about one-half of the total). The corrosive S compds. in gasoline comprise 62 and 37% of the total S, and in kerosene 50 and 52%, while the residual S amounts to 30-33%. By treating the gasoline fraction (b. 50-150°) with AlCl$_3$ at 50° and ordinary pressure, the S content was lowered to 0.065% from the original 0.36%. — Bruno C. Metzner

METALLURGICAL LITERATURE CLASSIFICATION

Ca

Cracking of Uch-Kzyl petroleum with aluminum chloride. S. L. Guselnikova and V. N. Sergeeva. *Acta Univ. Asiae Mediae, Ser. VI, Chimia*, No. 44, 7 pp. (1938) (English summary).—The heavy, high-S Uch-Kzyl crude oil was cracked at temps. ranging from 300° to 420° under ordinary pressure over a period of 4-9 hrs. In the presence of $AlCl_3$. Under the most favorable conditions, i. e., prolonged heating with 0.5-1.5% $AlCl_3$ added in portions, the yield of cracked distillate (b. 80-300°) amounted to 50-65% in addn. to 0-20% heavy oil. The reaction is accompanied by evolution of large amts. of gas, chiefly H_2S. The gasoline fraction of the distillate contains 2.92% S and has the following compn.: aromatic compds. 29.75, naphthenes 30.76, satd. hydrocarbons 39.39%. The $AlCl_3$ treatment apparently causes the decompn. of high-mol. aromatic compds. to toluene, but has no desulfurizing action.   Bruno C. Metzner

Cracking of Khaudag mazout with aluminum chloride.
S. L. Gusinskaya. Acta Univ. Asiae Mediae, Ser. VI,
Chem a, No. 45, 5 pp.(1938)(English summary).—A ma-
zout of 0.9012 sp. gr., representing 80% of Khaudag crude
oil and contg. 3.75% paraffin wax, was cracked at ordinary
pressure for 4 hrs. in the presence of 10% AlCl₃ added in
portions, to yield 55% of cracked distillate consisting of
22% gasoline and 27.5% kerosene (based on the mazout).
Despite the naphthene-aromatic nature of the initial ma-
terial, the gasoline is of low gravity and has a high content
of satd. hydrocarbons. It contains 0.72% S compared to
3.33% in the mazout.   Bruno C. Metzner

GUSINSKAYA, S. L.
25634

Issledovaniye nefteabadskoy nefti. Doklady akad. nauk uz SSR, No. 4,
1948, s. 15-18. Rezyume na uzbek. yaz.

SO: LETOPIS NO. 30, 1948

Synthesis of isobutyl tetrahydronaphthyl ketone. S. L. Guzinskaya and G. A. Gol'dberg (Middle-Asiatic State Univ., Alma-Ata). *J. Gen. Chem.* (U.S.S.R.) 18, 104-5 (1948)(in Russian).—Friedel-Crafts condensation of tetrahydronaphthalene and iso-BuCOCl gave the best results under the following conditions: 12 ml. tetralin, 16 ml. iso-BuCOCl, 15 g. AlCl₃, 40 ml. CS₂. The yield of *iso-Bu tetrahydronaphthyl ketone*, b_{15} 172-3°, $d_4^{2.0}$ 1.0143, $n_D^{2.0}$ 1.5408, was 64%; *semicarbazone*, m. 140-8° (from EtOH). Reduction of 25 g. ketone with 55 g. amalgamated Zn and 65 ml. concd. HCl for 14 hrs. at reflux gave 5.5 g. *isoamyltetrahydronaphthalene*, b_{10} 279-81°, b_{11} 144-5°, d_4^{20} 0.9310, n_a^{20} 1.5248.   G. M. K.

GUSTNSKAYA, S. L.

"The Nature of Sulfur Compounds in Crudes From Southern Uzbekistan" p. 343

Composition and Properties of the High Molecular Weight Fraction of Petroleum; Collection of Papers, Moscow, Izd-vo AN SSSR, 195C. 370pp. (Inta nefti) 2nd Collection of papers publ. by AU Conference, Jan 56. Moscow.

It was determined that Sourthern Uzbekistan crudes have a high sulfur content (3 - 6 percent) and high content of nitrogen compounds (up to 1 percent). Thiophane homologues were detected (methyl-amyl-heptyl) in these crudes. Uhc-Kzyl crudes include also thiazoles (methylthiazole). Gasoline and kerosene from these crudes show 2 - 4 percent sulfur. There are 5 tables and 21 references of which are 15 Soviet, 3 English and 3 German.

GUSINSKAYA, S.L.; GOPSHTEYN, M.A.

Use of resin from wastes of benzene pyrolysis.   Uzb.khim.zhur.
no.6:93-94 '58.   (MIRA 12:2)

1. Sredneaziatskiy gosudarstvennyy universitet im. V.I.Lenina.
         (Heat--Transmission)   (Terphenyl)

GUSINSKAYA, S.L.

Sulfurous compounds in petroleums of southern Uzbekistan.
Dokl. AN Uz.SSR no.7:27-29 '58.   (MIRA 11:10)

1. Sredneaziatskiy gosudarstvennyy universitet imeni V.I.Lenina.
Predstavleno chlenom-korrespondentom AN UzSSR I.P.TSukervanikom.
     (Uzbekistan--Petroleum products) (Sulfur--Organic compounds)

GUSINSKAYA, S. L.

Nitrogen compounds in oils of southern Uzbekistan. Dokl.AN Uz.
SSR no.11:33-36 ' 58.   (MIRA 11:12)

1. Sredneaziatskiy gosudarstvennyy universitet imeni V.I. Lenina.
Predstavleno chlenom-korrespondentom AN UzSSR I.P. TSukervanikom.
                (Uzbekistan--Petroleum--Analysis)

GUSINSKAYA   GUSINSKAYA S. L.

АЗОТИСТЫЕ СОЕДИНЕНИЯ
ЮЖНОУЗБЕКИСТАНСКИХ НЕФТЕЙ

С. А. Гусинская

VIII Mendeleyev Congress for General and Applied Chemistry in
Section of Chemistry and Chemical Technology of Fuels,
publ. by Acad. Sci. USSR, Moscow 1959

abstracts of reports scheduled to be presented at above mentioned congress.
Moscow, 13 March 1959.

GUSINSKAYA, S.L.

SHEREMETEVA, T.V.; GUSINSKAYA, V.A.; KUDRYAVTSEV, V.V.

Synthesis of N-substituted diamides of succinic and citraconic acids.
Izv. AN SSSR Ser.khim.   no.10:1821-1823 O '63.   (MIRA 17:3)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

L 35344-66   EWT(m)/EWP(j)/T   IJP(c)   WW/JWD/RM

ACC NR: AP6012720   (A)   SOURCE CODE: UR/0190/66/008/004/0732/0735

AUTHOR: Sheremeteva, T. V.; Gusinskaya, V. A.

ORG: Institute of Macromolecular Compounds, AN SSSR (Institut vysokomolekulyarnykh soyedineniy AN SSSR)

TITLE: Preparation of succinamides with a regular structure

SOURCE: Vysokcmolekulyarnyye soyedineniya, v. 8, no. 4, 1966, 732-735

TOPIC TAGS: copolymerization, succinamide, polyamide

ABSTRACT: The migrational copolymerization of succinamides with various diamines was investigated. The reaction of migrational copolymerization proceeds at low temperatures from -10 to 78 C in an aqueous alkali medium with pH = 9—9.5. It is shown that migrational copolymerization of succinamides with diamines can result in homogeneous and mixed regular polysuccinamides with a molecular weight of 15,000 to 20,000. Polysuccinamides were synthesized from hexamethylenedisuccinamide and typed for the first time. The authors thank Ye. I. Pokrovskiy and Ye. F. Fedorova for taking the IR spectrum and the analytical Laboratory of the Institute of Macromolecular Compounds for carrying out analyses. Orig. art. has: 2 tables.
[NT]

SUB CODE: 11, 07/ SUBM DATE: 03May65/ ORIG REF: 003/ OTH REF: 002

Card 1/1

GUSINSKAYA, V.A.; BORISOVA, Z.V.

Synthesis of trifluoromethylmaleinimide. Izv. AN SSSR.Ser.khim.
no.10:1907-1908 '65.

(MIRA 18:10)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

SOV/123-59-16-64436

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 16, p 114 (USSR)

AUTHOR: Gusinskiy, B.

TITLE: Device for Grinding the Outside of Small Diameter Bushings

PERIODICAL: Tekhn. ekon. byul. Sovnarkhoz Tatarsk. ekon. adm. r-na, 1958, Nr 5,
             34 - 45

ABSTRACT: A special device for the grinding of jig bushings with an inner diameter
             of 0.4 - 1 mm consists of a fixed center and a mandrel on which the
             driving shaft is fastened. This shaft transmits the rotation by a rubber
             roller to the bushing to be machined which is slipped onto the axle and
             clamped in the prisms. The device is centered in the machine. In this
             way an eccentricity of the outer diameter of the bushing relative to the
             inner one is avoided. 2 drawings.
                                                        M.I.V.

Card 1/1

BOGDANOV, P. [Bohdanov, P.], nauchnyy sotrudnik; GUSINSKIY, G. [Husyns'kyi, H.]

Museum of nature. Nauka i zhyttia 12 no.1:52-53 Ja '63. (MIRA 16:3)

1. Luganskiy krayevedcheskiy muzey (for Bogdanov). 2. Direktor
Donetskogo krayevedcheskogo muzeya (for Gusinskiy).
(Ukraine--National parks and reserves)

GUSINSKIY, G.M.; YEROKHINA, K.I.; LEMBERG, I.Kh.

Lifetime of the 1.46 Mev. level of Ar^{40}. IAd. fiz. 2 no.5:794-795 N '65.

(MIRA 18:12)

1. Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR.

Glis in sriy G. M.

ALKHASOV, D.G., ANDREYEV, D.S., GAL'PERIN, L.N., GRINBERG, A.P., GUSINSKIY, G.M., LEMBERG, Y.Kh., and YEROKHINA, K.I.

Physical Technical Inst. Acad. Sci. USSR

"Coulomb Excitation of Nuclei (review lecture)

24(3)
AUTHORS: Alkhazov, D. G.,   Grinberg, A. P.,   Gusinskiy, G.M.,
Yerokhina, K. I. ,   Lemberg, I. Kh.

SOV/56-35-4-46/52

TITLE: The Coulomb Excitation of Aluminum (Kulonovskoye vozbuzhdeniye alyuminiya)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 4, pp 1o55-1o56 (USSR)

ABSTRACT: The authors investigated the Coulomb (Kulon) excitation of Al^{27}-nuclei by means of heavy ions which were accelerated in a cyclotron. The ions concerned were 15.9 MeV triple-charged nitrogen ions and triple-charged 18.1 MeV oxygen ions. The γ-radiation occurring during the bombardment of the aluminum was investigated by means of a scintillation-γ-spectrometer with a NaJ(Tl) crystal. The investigation method employed and calculation of the values $B(E2)\uparrow$, i.e. of the reduced probability of a quadrupole transition of a nucleus from the ground state to an excited state has already been described in earlier papers. A diagram shows the γ-radiation spectrum which was produced by a Coulomb excitation of aluminum by

Card 1/3

The Coulomb Excitation of Aluminum   SOV/56-35-4-46/52

nitrogen ions. Two lines with $E = 0.84$ and with 1.01 MeV respectively are observed. The relative intensity of the γ-cascade transition $0.84 + 0.17$ MeV amounts to not more than 4% of the direct transition to the ground level. An attempt to excite the two aforementioned Al^{27} levels by means of nitrogen ions (which were accelerated to 25 MeV) was without success because of the sharp increase of the γ-radiation background (which is due to nuclear reactions). The results obtained when using nitrogen- and oxygen-ions agree well with one another. The values of $B(E2)\uparrow$ for the levels with $\Delta E = 0.84$ and 1.01 MeV amount to 0.0019 and $0.0031 e^2 . 10^{-48} cm^4$ respectively. The partial lives of the levels with $\Delta E = 1.01$ MeV and $\Delta E = 0.84$ MeV amount to $1.7 . 10^{-11}$ sec and $3.7 . 10^{-11}$ sec respectively. There are 1 figure and 6 references, 2 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physico-Technical Institute of the Academy of Sciences USSR)

Card 2/3

21(8)
AUTHORS:

SOV/56-35-4-47/52

Alkhazov, D. G.,   Grinberg, A. P.,   Gusinskiy, G. M.,
Yerokhina, K. I.,   Lemberg, I. Kh.

TITLE:

The Lifetime of the First Excited Level of Mg^{24} (Vremya zhizni pervogo vozbuzhdennogo urovnya Mg^{24})

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 4, pp 1056-1058 (USSR)

ABSTRACT:

The investigation of the Coulomb (Kulon) excitation of the nuclear level makes it possible to calculate its life. For the transition of even-even nuclei from the ground state with spin 0 to the first excited level with spin 2 it holds that

$$1/\tau = 2.46 \cdot 10^{-3} (\Delta E)^5 B(E2)\uparrow .$$

Here ΔE denotes the level energy in keV, and $B(E2)\uparrow$ the reduced probability of the aforementioned transition. Here $e^2 \cdot 10^{-48} cm^4$ serves as a measuring unit of $B(E2)$. In the present paper triple-charged nitrogen- and oxygen ions with energies of 15.9 and 18.1 MeV respectively, and also quadruple-charged nitrogen ions with 25.6 and 36 MeV are used. Investi-

Card 1/2

The Lifetime of/ First Excited Level of Mg^{24} SOV/56-35-4-47/52

gations are rendered difficult by a permanent parasitic line
of 1.37 MeV (which is thus in agreement with the line under
investigation). A diagram shows the spectrum obtained by the
bombardment of natural magnesium with 15.9 MeV nitrogen ions.
According to estimates made by the authors, the maximum error
committed when determining the area of the parasitic peak
amounts to not more than $\pm$ 5% of the peak under investigation.
The mean value of $B(E2)\uparrow$, which was determined by 6 different
experiments, amounts to 0.054 $e^2.10^{-48}$ cm^4, from which   it
follows that $\tau = (1.5 \pm 0.4).10^{-12}$ sec. In conclusion, a
short report is given on results obtained by other authors.
There are 1 figure and 3 references, 2 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR
(Leningrad Physico-Technical Institute of the Academy of
Sciences USSR)

SUBMITTED: July 9, 1958

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SOV/56-35-6-2/44

24(5)
AUTHORS:

Alkhazov, D. G., Grinberg, A. P., Gusinskiy, G. M., Yerokhina,K.I., Lemberg, I. Kh.

TITLE:

Coulomb Excitation of High-Energy Nuclear Levels in Even Tungsten Isotopes (Kulonovskoye vozbuzhdeniye yadernykh urovney s bol'shoy energiyey v chetnykh izotopakh vol'frama)

PERIODICAL:

ABSTRACT:

In their introduction the authors deal in detail with investigations carried out in this field by other authors (Refs 1-3, 6-11). The authors themselves already determined even-even nuclei with 15 Mev α-particles and excited states with energies of up to 1.5 Mev (Refs 4,5). Peker (Ref 11) set up schemes of excited levels on the basis of a generalized nuclear model for W^{184} and W^{186} according to data obtained from references 9 and 10. Herefrom it follows that the levels of W^{184} with $\Delta E = 900$ kev and that of W^{186} with $\Delta E = 750$ kev are vibration levels (2^{+}). In the present paper the authors used the following energies for their investigations for the excitation of α-particles: 8.3, 10.2, 13.1 and 14.5 Mev. The particles were accelerated in a cyclotron. The target substance

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Coulomb Excitation of High-Energy Nuclear Levels in Even Tungsten Isotopes

consisted of natural tungsten and of samples (lead bases) which were enriched with W^{182}, W^{184}, and W^{186}. The results obtained by the investigations are shown by a number of diagrams and tables. Figure 1 shows the γspectrum emitted by natural tungsten at Coulomb excitations (E_α = 14.5 Mev), and figure 2 shows the same for the last high-energy lines. The extrema of the curves correspond to the following lines: 511, 610, 730, 900, 1120, and 1220 kev. The line ΔE = 790 kev does not occur here, but the γ-spectrum for W^{184} (E_α = 13.1 Mev) shows weak but distinct maxima for ΔE = 790 and 900 kev; figure 4 shows the same for W^{186} (E_α = 14.5 Mev) 511 kev (intensive line), 610 and 730 (weak lines). The existence of the following excited levels was determined: W^{182}: 1.22 Mev, W^{184}: 0.90 Mev, W^{186}: 0.73 Mev. The reduced transition probabilities to the ground state B(E2) calculated for each of these levels were found to be 0.051, 0.038 and 0.040 respectively (in units of $e^2 . 10^{-48} cm^4$). The assumption that these levels belong to the vibration type is discussed. The author finally thanks B.L.Birbrair,

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SOV/56-35-6-2/44

Coulomb Excitation of High-Energy Nuclear Levels in Even Tungsten Isotopes

L. K. Peker, and L. A. Sliv for discussing results.- There are 5 figures, 2 tables, and 15 references, 5 of which are Soviet.
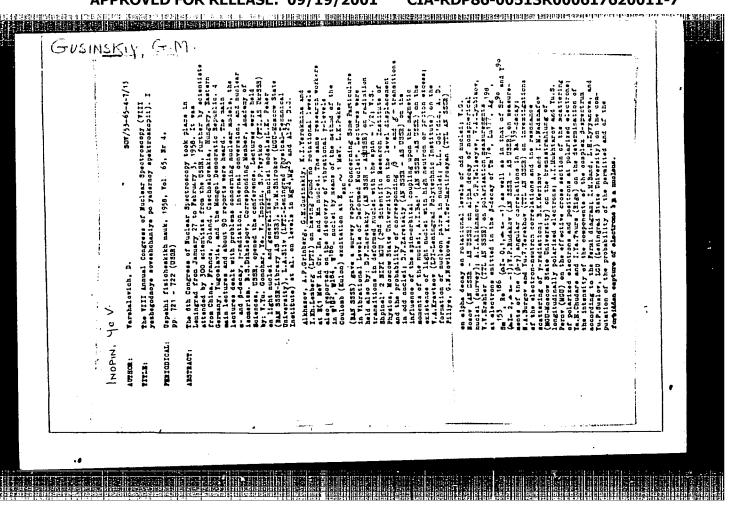
ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physico-Technical Institute of the Academy of Sciences, USSR)

SUBMITTED: May 26, 1958

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GUSINSKIY, G.M.

INOPIN, Ye V.

SOV/53-65-4-7/15

AUTHOR: Varshalovich, D.

TITLE: The VIII Annual Congress of Nuclear Spectroscopy (VIII yezhegodnoye soveshchaniye po yadernoy spektroskopii). I

PERIODICAL: Uspekhi fizicheskikh nauk, 1958, Vol. 65, Nr 4, pp. 721 - 722 (USSR)

ABSTRACT: The 8th Congress of Nuclear Spectroscopy took place in Leningrad from January 27 to February 3, 1958. It was attended by 300 scientists from the USSR, further by scientists from China, France, Poland, Czechoslovakia, Hungary, Eastern Germany, Yugoslavia, and the Mongol Democratic Republic. 4 main lectures and about 90 reports were heard. The main lectures dealt with problems concerning nuclear models, the α- and β-decay, γ-radiation, internal conversion, and nuclear isomerism. B.S.Dzhelepov, Corresponding Member, Academy of Sciences, USSR, opened the conference. Lectures were held by: V.Yu. Gonchar, Ye. V. Inopin, S.F.Feyuko (Fiz.AS UkrSSR) on light nuclei and generalized nuclei model; L.K. Peker (BAN SSSR-Library AS USSR); Yu.M.Shirokov (MGU-Moscow State University), L.A.Sliv (LFTI-Leningrad Physical-Technical Institute) et al. on levels in Mg^{24}, Mg^{25} and Al^{27}; D.G.

Alkhazov, A.P.Grinberg, G.M.Gusinskiy, K.I.Yerokhina and I.Kh.Lemberg (LFTI) on having found "no rotational level's at K[1 MeV in Cr, In, and Mn nuclei. The same research workers also reported on the discovery of vibrational P-levels in W^{182}, W^{184}, W^{186} nuclei by means of the method of the Coulomb (Kulon) excitation at $E_{exc} \sim 1$ MeV. L.K.Peker

(BAN SSSR) gave a survey report: "Concerning Some Particular in Vibrational Levels of Deformed Nuclei". Lectures were held also by: D.F.Zaretskiy (AS SSSR - AN SSSR) on radiation transitions in deformed nuclei with the spin 1.1/2; V.S. Shpinel' 2 MIFI MGU (2nd Scientific Research Institute of Physics, Moscow State University) on the level displacement and the probability of corresponding β - and d^{-} transitions in odd nuclei; D.F.Zaretskiy (AS SSSR - AS USSR) on the influence of the spin-orbital coupling upon the magnetic moments of the nuclei, A.I.Baz' (AN SSSR -AS USSR) on the existence of light nuclei with high neutron or proton excess; V.A.Kartsev (LPI-Leningrad Polytechnic Institute) on the formation of nucleon pairs in nuclei; L.L. Gol'din, A.P. Milye, G.M.Novikova, K.I.Ter-Martirosyan (ITI AS SSSR)

on alpha decay on rotational levels of odd nuclei: T.G. Morar (AN USSR - AS USSR) on alpha decay of nonspherical nuclei (survey); A.I.Alikhanov, G.P.Eliseyev, V.I.Lyubimov, V.V.Ershler (ITI AS SSSR), on polarization measurements of electrons emitted in the β-decay of Ta^{170}, Lu^{177}, La^{140}, Sm^{153}, Re^{186} $(aI-0, I\rightarrow I-1)$, as well as in that of P^{90} and Y^{90} $(aI- 2, a \rightarrow -1)$; T.P.Rudakov (AN SSSR - AS USSR) on measurements of the $(\beta-\gamma)$ angular correlations in Ba^{133} β-decay; N.A.Burgov and Yu.V.Terekhov (ITI AS USSR) on investigations of the electron-neutron correlations and the resonance scattering of γ-radiation; B.K.Kerimov and I.M.Nadzhafov (MGU-Moscow State University) on the bremsstrahlung of longitudinally polarized electrons; A.I.Mukhtarov and Yu.S. Perov (MGU) on the effective cross section of the scattering of polarized electrons and positrons at polarized electrons; I.A.Chudnov and I.Ya.Yours (Riga) on the determination of the intensity of the components of the complex β-spectra according to the Fermi diagram; I.M.Band, L.N.Zyryanova, and Yu.P.Suslov, LGU (Leningrad State University) on the computation of the probability of the permitted and of the forbidden capture of electrons in a nucleus.

GuSiNSKiY, G.M.

21 (7), 21 (8)

AUTHOR: Rudakov, V. P.

SOV/89-7-1-18/25

TITLE: IX All-Union Conference on Nuclear Spectroscopy
(IX Vsesoyuznoye soveshchaniye po yadernoy spektroskopii)

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 1, pp 76-79 (USSR)

ABSTRACT: The IX All-Union Conference was held from January 26 to
February 2, 1959 at Khar'kov. More than 500 participants heard
100 lectures, the most important of which dealt with the
following fields. Nuclear Theory. General problems of β-decay.
A. B. Dolgov (ITEF): Theoretical classification of low-energy
excited nuclear states. L. K. Pekar informed on the
Birbrair, L. K. Pekar, L. A. Sliv (LFTI): Correspondence of the forward-angle matrix
oscillations of deformed nuclei. V. V. ....
S. P. Kamyko (ITEF): Calculation of pair-correlation
.... for β-transitions by area of the generalized nuclear
model. K. T. Belyaev (LIS): Consideration of pair-correlation
in nuclei. .... (LIS): The application of the super-
conductivity model to nuclei for the purpose of calculating
their aspects of inertia. B. E. Vas-Kretskiy (LIS): Problem of
the neutron stability of nuclei. .... (LIS). The
present stage in the theory of β-decay. ....

V. ....: ....
Measurement of the angular correlation between electrons and
neutrino in the decay of the neutron. I. I. Lobashov:
.... (LPTI): .... of the correlation
between the transversal electron polarisation and circular
polarisation of γ-quanta occurring in the decay of
Sc46 and Co60. Decay Schemes. γ-radiation of Nuclei.
.... A.K. Valter, ... V. Gonchar,
A. K. Lvov, P. N. Olaya, I. P. ..., Y. V. Suokhin, A. S.
........, ... Ya. Malaya, ... (Fiziko-tekhnicheskiy
Khar'kovskiy Institut (Physico-technical Institute, Khar'kov)).
The Sc28,29,50(p,γ), Na20(p,γ), Al32,34(p,γ), Ar40(p,γ) and Mn(p,γ)
reactions. B. C. Alkhazov, ... G. M. Gusinskiy
M. Ch. Lemberg, V. O. Sochkestpenskiy .... (Leningrad Physico-
technical Institute). Investigation of the decays existence
of the lower levels of some nuclei during their bombardment by
multiply charged ions (C, N, O, and Ne). .... V. V.
.... V. I. Fomichev, V. I. ...... (LFTI): New isotopes
Tm161, Ho155, Ho155 and Er153. ....
Spectlyeta (LPO): Decay schemes of some neutron-deficient
isotopes, set up on the basis of measurement of the coinci-
dence of the internal γ-cascade electrons. ....
Engineering. .... B. ....
V. G. Chsain (NIRI): ....
.... improved ....
Barchuk .... V. Shelosh. ....
Barchuk, ... (IAEI): Magnetic spectrograph with double focusing.
Spectyeta (UkSSR): Magnetic spectrograph of 2527 charged particles.
The representatives of the Ministerstvo radiotekhnicheskoy
promyshlennosti (Ministry of the Radio-engineering Industry)
gave a report about new multipliers. The Conference was
closed by I. S. Shapiro. The nuclear reactions the first that nuclear
tables and reference works ought to be published in order to
quickly ain order to be of real use to the experimenter.

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85861

S/048/59/023/012/005/009
B006/B060

24.6520

AUTHORS: Alkhazov, D. G., Grinberg, A. P., Gusinskiy, G. M.,
              Lemberg, I. Kh.

TITLE: Nuclear Reactions of Multicharged Ions With Carbon and
              Oxygen, and Their Influence on the Investigation of the
              Coulomb Excitation of Nuclear Levels

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959,
              Vol. 23, No. 12, pp. 1465 - 1472

TEXT: The investigation of the ion induced excitation of high-energy
nuclear levels encounters great difficulties due to intensive γ-background.
The attempt of exciting high-energy nuclear tin levels by nitrogen ions
(25 Mev) revealed a γ-background exceeding considerably the expected
γ-emission due to Coulomb excitation. In order to clarify origin and back-
ground character, the authors investigated γ-spectra of different elements,
of their compounds and of isotopes occurring with their bombardment by
C^{12}-, N^{14}-, O^{16}-, Ne^{20}-, and Ne^{22}-ions. The γ-recording was carried out by

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Carbon and Oxygen, and Their Influence on the   B006/B060
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means of a scintillation spectrometer joined with a multiplier (FEU-11), and a fifty-channel pulse analyzer. The distance between target and the front of the NaJ(Tl)-crystal was 2.7 mm. The 0.1 - 2 Mev region of the γ-spectra was investigated, and the background was determined for the following bombarding ion energies: C^{12}(13.6 Mev), N^{14}(11-40 Mev), O^{16}(18.1 Mev), Ne^{20}(23.1 - 27.8 Mev), and Ne^{22}(25.8 Mev). The ions were accelerated in the cyclotron of LFTI (Leningrad Physicotechnical Institute). The most accurate γ-background spectrum investigation was conducted with the bombardment with nitrogen ions, proceeding from E_N = 15.9 Mev. In Fig. 1 the γ-spectra of a graphite and a nickel target are given; they are very similar. The γ-background lines 0.35, 0.51 (very weak), 0.59, and 1.37 Mev were observed. For E_N = 11.25 Mev the above two first lines were no more observable (for graphite), the two last ones were weaker, and the continuous background diminished. An increase in E_N caused intensification. For silicon bombardment with E_N = 25 Mev the background

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Investigation of the Coulomb Excitation of Nuclear Levels

line 1.63 Mev, for aluminum bombardment the lines 0.69 and 0.81 Mev were observed. Fig. 2 shows the γ-spectrum with Ni^{62} bombardment by N^{4+} (35 Mev). Fig. 3 applies to the same for vanadium bombardment. In both spectra the 1.37 Mev background line is missing, nickel exhibits the intensive 1.19 Mev line, vanadium a 0.92 Mev line. The results are discussed and some further ones are given. For targets containing oxygen the background lines 0.51 and 1.78 Mev as well as increased intensity of the 0.59 and 1.37 Mev were observed under bombardment with nitrogen ions. When E_N is increased from 15 to 40 Mev the intensity of the 1.78 Mev line increases much faster than that of the 1.37 Mev line. Next, results of γ-background investigations when bombarding with other ions are given:

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	E_γ (Mev) for reaction with	
	Carbon	Oxygen
C^{12}(13.6 Mev)	0.44, 0.51, 1.63;	0.51, ~1.0, 1.37
N^{14}(15.9-40 Mev)	0.35, 0.51, 0.59, 1.37;	0.51, 0.59, ~1, 1.37, 1.78
O^{16}(18.1 Mev)	0.51, 1.37	---
Ne^{20}(23.1 Mev)	---	0.69
Ne^{22}(25.8 Mev)	---	---

Full particulars are given of the results; the attempt is further made of
explaining the various occurring lines by reactions between ion and
bombarded nucleus. For example: γ-background line 1.63 Mev:

$C + C = Ne^{20} + \alpha + 11.4$ Mev (the first Ne^{20} level has the energy of

1.63 Mev). 1.37 Mev: $N + C = Mg^{24} + \alpha$, or $N + C = Na^{24} + 2p$, where Na^{24}

decays to the first excited Mg^{24} level by β-decay ($\Delta E = 1.37$ Mev).

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Nuclear Reactions of Multicharged Ions With   S/048/59/023/012/005/009
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0.35 Mev: $N + C = Ne^{21} + \alpha + p$. 0.59 Mev: $N + C = Na^{22} + \alpha$. Some lines
may be explained by different reactions as for instance: 1.78 Mev:

$N + O = Al^{28} + 2p$; $N + O = Si^{28} + n + p$; $N + O = P^{28} + 2n$. Finally the
investigation possibilities of Coulomb excitation of nuclear levels are
discussed for different experimental conditions. A team under the super-
vision of A. B. Girshin participated in this work. There are 3 figures,
1 table, and 10 references: 8 Soviet.

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24.6500,24.6600,
24.6700,16.8100

76965
SOV/56-37-6-5/55

AUTHORS: Alkhazov, D. G., Grinberg, A. P., Gusinskiy, G. M., Erokhina, K. I., Lemberg, I. Kh.

TITLE: Coulomb Excitation of Odd A-Nuclei by Heavy Ions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 6, pp 1530-1542 (USSR)

ABSTRACT: High-lying levels in some light nuclei (Al^{27}, Sc^{45}, V^{51}, Nb^{93}), which because of background could not previously be observed when protons or α-particles were used, have now been excited by using "heavy" ions as bombarding particles. The "heavy" ions were N^{14}; 3+, N^{14}; 4+, O^{16}; 3+, Ne^{20}; 4+, and Ne^{22}; 4+, at energy levels from 16 to 36 mev. The γ-radiation formed during the bombardment of the target with ions was registered with the aid of a scintillation spectrometer (cf. D. G. Alkhazov, D. S. Andreev, K. I. Erokhina, I. Kh. Lemberg, Zhur. eksp. i teoret. fiz., 33, 1347, 1958). The calibration of the

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Coulomb Excitation of Odd A-Nuclei by Heavy Ions 75965

spectrograph was done according to the γ-lines of Hg^{203} (279.5 kev), Cs^{137} (661 kev), Zn^{65} (1,120 kev), and Co^{60} (1,170 and 1,332 kev). The reduced probability of the excitation was calculated with the aid of the following equation:

$$B(E2) = 0.555 \cdot 10^{-10} \frac{Z_i S_i (1 + \alpha_t) M Z_2^2 dE/d\rho x}{\eta c_f \omega_t \gamma^{\eta}} \left[\int_0^{E_{max}} (E - \Delta E) f_2(\xi) dE \right]^{-1} \quad (1)$$

(where Z_i is the ion charge in the beam outside the cyclotron; α_t is the total coefficient of internal conversion; S_f is the number of γ-quanta registered at the peak of the total energy; M is the molecular weight of the substance comprising the target; Z_2 is the nuclear charge of the atom under investigation (i.e., in the target); $dE/d\rho x$ are the specific losses of the ion energy in the target (in mev/(mg/cm^2)); η is the relative content of a given isotope

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in the element under investigation; $\mathcal{E}_f$ is the ratio of the number of γ-quanta registered at the peak of the total energy to the total number of γ-quanta falling on NaI(Tl) crystal; ω is the relative solid angle; A_γ is the portion of γ-quanta passing through the target and absorbed by the medium between the target and the crystal (0.3 mm Cu, 1.3 mm Al, 1 mm MgO, 0.05 mm Pb, and 0.05 mm mica); μ is the reduced mass; n is the number of atoms of the element under investigation in the target; E is the collision energy; ΔE is the energy of the excited level; $f_2(\xi)$ is function of coulomb excitation; ξ is parameter that is defined by the relation

$$\xi = 0.1575 \, z_1 z_2 \sqrt{\mu} \, (1/\sqrt{E - \Delta E} - 1/\sqrt{E});$$

and Z_1 is the nuclear charge of the bombarding particle). The analysis showed that some of the γ-lines observed

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in previous investigations, in which chromium was irradiated with protons or α-particles, are not due to coulomb excitation of the corresponding levels in chromium. It was shown that lines associated with nuclear levels owing to the α-excitation (Rb^{87},

Sn^{117}, Sn^{119}) are actually emitted as a result of coulomb excitation. The partial lifetimes $\tau(E2)$ of the excited levels were determined to lie between

10^{-7} and 10^{-12} sec. A. B. Girshin made contributions in the course of this work. There is 1 table; 6 graphs; and 31 references, 8 Soviet, 1 Dutch, 1 Swiss, 2 French, 19 U.S. The 5 most recent U.S. references are:
F. K. McGowan, P. H. Stelson. Phys. Rev., 109, 901, 1958; E. Almqvist, D. A. Bromley, H. E. Gove, A. S. Litherland, Bull. Amer. Phys. Soc., 2, 178, (D7), 1957; C. P. Swann, W. C. Porter, J. Frankl. Inst., 261, 371, 1956. M. A. Rothman, D. M. Van Patter, V. S. Dubey, W. C. Porter, C. E. Mandeville. Phys. Rev., 107, 1551, 1957; R. M. Sinclair. Phys. Rev., 107, 1306, 1957.

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Coulomb Excitation of Odd A-Nuclei by Heavy Ions 76965

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ASSOCIATION: Leningrad Phys.-Tech. Inst. Acad. Sciences USSR
                (Leningradskiy fiziko-tekhnicheskiy institut, Akademii
                nauk SSSR)

SUBMITTED: July 2, 1959

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S/048/60/024/012/
B019/B056

26.2541

AUTHORS: Gangrskiy, Yu. P., Gusinskiy, G. M., and Lemberg, I. Kh.

TITLE: Study of the Decay Scheme $Bi^{212}_{79} \rightarrow Po^{212}_{79}$ by Means of $\alpha - \gamma -$
          and $\gamma - \gamma -$ Coincidences

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
               Vol. 24, No. 12, pp. 1449-1456

TEXT: The present paper was read at the 10th All-Union Conference on
Nuclear Spectroscopy, which was held in Moscow from January 19 to
January 27, 1960. In the introduction, the difficulties of a study of the
Po^{212}_{84}-levels owing to the low half-life of this isotope ($3 \cdot 10^{-7}$ sec) were
pointed out. The authors investigated the coincidence of the spectrum of
Bi^{212} γ-rays with 8.78-Mev α-particles, for which purpose a 52-channel
pulse-height analyzer with a resolution of $2 \cdot 10^{-6}$ sec was used. Likewise,
the coincidence of the spectrum with γ-radiation with 727 kev γ-quanta
was studied. In this γ-spectrum, lines with 586, 727, 786, 860, 893,

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Study of the Decay Scheme Bi^{212}→Po^{212} by
Means of α - γ - and γ - γ - Coincidences

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952 and 1073 kev occur. The levels determined in this way agree with those
obtained by A. G. Sergeyev et al. (Ref. 1), but not with those obtained by
Burde et al. (Ref. 2). For determining the level spins and multiplicities,
the γ - γ angular correlations of the cascade γ-quanta with 786 - 727 and
1073 - 727 kev were investigated. Furthermore, the level of the lifetime
was estimated. The Bi^{212} decay scheme shown in Fig. 8 was constructed from
results obtained by investigations of the following four independent
sources: 1) From values of the function log(ft) at transitions to an
excited Po^{212} level. 2) According to the values of the conversion co-
efficients. 3) According to the γ - γ angular correlations. 4) According
to the level lifetimes. This scheme agrees with that obtained by Sergeyev.
The authors thank A. P. Grinberg for his great help. There are 8 figures,
5 tables, and 9 references: 3 Soviet, 4 US, and 1 Italian.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Institute
of Physics and Technology of the Academy of Sciences USSR)

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B019/B056

Рис. 8. Схема распада Bi²¹²

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S/048/60/024/012/006/011
B019/B056

AUTHORS: Andreyev, D. S., Grinberg, A. P., Gusinskiy, G. M.,
             Yerokhina, K. I., and Lemberg, I. Kh.
                                                            19

TITLE: Coulomb Excitation of the First Nuclear Levels of Even
             Chromium-Selenium and Neodymium Isotopes
                                                    27 19

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
             Vol. 24, No. 12, pp. 1474-1477

TEXT: The present paper was read at the 10th All-Union Conference on
Nuclear Spectroscopy, which was held in Moscow from January 19 to
January 27, 1960. The experiments described in the present paper were
carried out with 16.3-Mev and 36.0-Mev nitrogen ions and 23.2-Mev neon
ions. Results are given in Table 1. Chromic oxide targets were used, which
contain the isotopes Cr^{52} and Cr^{54}, as well as natural, vaporized chromium.
Further, natural metallic neodymium (23.87% Nd^{144}) was used. The results
are discussed in great detail and compared with earlier results. There
are 3 figures, 1 table, and 17 references: 3 Soviet and 14 US.

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Coulomb Excitation of the First Nuclear
Levels of Even Chromium-Selenium and
Neodymium Isotopes

S/048/60/024/012/006/011
B019/B056

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Institute
of Physics and Technology of the Academy of Sciences USSR)

Text to Table 1: 1) Examined nucleus; 2) Energy of the excited level;
3) Bombarding particle and its energy; 4) Reference level; 4a) Nucleus;
4b) Energy of the excited level; 4c) Transition probability; 4d) Referen-
ces; 5) Transition probability according to the data obtained here;
6) Transition probability according to published data; 7) Lifetime;
8) $F = B(E2)/B(E2)_{single}$, where $B(E2)$ is the single-particle transition
probability.

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Ядро	ΔE,Mev	Бомбардирующие частицы и их энергия, MeV	Реперный уровень			
			ядро	ΔE, MeV	B(E2)·10⁴⁸, e² см⁴	литература
Cr⁵⁰	0,78	Ne²⁰(23,2)	Mo¹⁰⁰	0,53	0,614	[3]
Cr⁵²	1,45	N¹⁴(36,0)	Ni⁵⁸	1,45	0,080	[1]
Cr⁵¹	0,84	N¹⁴(16,3), Ne²⁰(23,2)	Ti⁴⁸	0,99	0,070	[4]
Se⁷⁶	0,560	N¹⁴(36,0), Ne²⁰(23,2)				
Se⁷⁸	0,615	N¹⁴(36,0), Ne²⁰(23,2)	Mo¹⁰⁰	0,53	0,614	[3]
Se⁸⁰	0,650	N¹⁴(36,0)	Ti⁴⁸	0,99	0,070	[4]
Se⁸²	0,660	N¹⁴(36,0)	Zr⁹²,⁹⁴	0,92	0,079	[3]
Nd¹⁴⁴	0,695	N¹⁴(36,0)	Zr⁹²,⁹⁴	0,92	0,079	[3]
Nd¹⁴⁶	0,455	N¹⁴(36,0)	Rh¹⁰³	0,30	0,21	[5]
Nd¹⁴⁸	0,300	N¹⁴(36,0)	Ta¹⁸¹	0,136	2,04	[6]
Nd¹⁵⁰	0,130	N¹⁴(36,0)				

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Физика. Техника
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AN SSSR

5	G	7	8
$B(E2)\uparrow \cdot 10^{..}$, $e^2 cm^4$	$B(E2)\downarrow \cdot 10^{..}$, $e^2 cm^4$	$\tau \cdot 10^{..}$, сек	F
0,15		0,9	27
0,062		1,2	10
0,057		1,7	9
0,42	0,43 [7]	1,8	44
	0,45 [8]		
0,36	0,36 [7]	1,3	36
0,23	0,23 [7]	1,5	22
0,19		1,7	18
0,23		1,1	10
0,25	0,25 [9]	8,4	11
0,57	0,69 [9]	30	24
1,92	2,3 [9]	575	80

Card 4/4

26439
S/048/61/025/007/001/005
B108/B209

24,6300

AUTHORS: Andreyev, D. S., Vasil'yev, V. D., Gusinskiy, G. M.,
             Yerokhina, K. I., and Lemberg, I. Kh.

TITLE: Study of the Coulomb excitation of nuclear levels with the
             aid of accelerated multiply charged ions

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25,
             no. 7, 1961, 832 - 847

TEXT: This paper was read at the XI Annual Conference on Nuclear
Spectroscopy in Riga, January 25 - February 2, 1961. The purpose of the
studies was to improve the results of earlier work (Ref. 1: Andreyev, D.S.
et al., Nucl. Phys., $\underline{19}$, 400 (1960); Ref. 2: Alkhazov, D. G.. et al., Zh.
eksperim. i teor. fiz., $\underline{37}$, 1530 (1959)) by the method of reference levels
(Ref. 1) which consists in measuring the excitation cross section of a
reference level before and after measuring the excitation cross section
of the level to be investigated. The following nuclear levels were used
as reference levels: 0.44 Mev of Na^{23} ($B(E2)\uparrow$ = 0.11 · 10^{-48} e^2cm^4) for
studying Li and B; 1.19 Mev of Ni^{62} ($B(E2)\uparrow$ = 0.085 · 10^{-48} e^2cm^4) for

Card 1/6

Study of the Coulomb...

26439
S/048/61/025/007/001/005
B108/B209

studying Co; 0.76 Mev of Se^{76} ($B(E2)\uparrow = 0.42 \cdot 10^{-48} e^2 cm^4$) for studying Mg, Ca, and Se; 1.15 Mev of Sn^{122} ($B(E2)\uparrow = 0.26 \cdot 10^{-48} e^2 cm^4$) for studying In, Sb, and Ce; 1.60 Mev of Ce^{140} ($\tau = 1.1 \cdot 10^{-13}$ sec) for studying the even Sn isotopes and Ba^{138}; 0.16 Mev of Ti^{47} ($B(E2)\uparrow = 0.040 \cdot 10^{-48} e^2 cm^4$) for studying Sn^{117}. The excitation probability, $B(E2)\uparrow$, was determined with an error of 15 - 20%. Tables 1 and 2 contain the results of measurements. In all these studies, the authors made use of the broadening of the energy band of multiply charged ions accelerated in the cyclotron at the FTI (Institute of Physics and Technology). Ne ions having 16 - 18 Mev were used for studying the nuclear levels of light elements such as Li and B, and were also successfully applied to exciting higher levels in light and medium elements (Mg^{25}, Mg^{26}, Ca^{44}, Co^{59}, In^{115}, and Sb). 52.5-Mev ions of N were able to excite the levels with energies of 1.4 - 1.6 Mev of heavier nuclei (Ba^{138} and Ce^{140}). The nuclear levels of even-even isotopes were chiefly examined to complete the data on even-even nuclei and to compare results (Ref. 16: Kisslinger, Card 2/ 6

Study of the Coulomb...

· 26439,
S/048/61/025/007/001/005
B108/B209

L. S., Sorensen, R. A., Dansk. Mat.-Fys. Medd., 32, No. 9 (1960))
(cf. Table 3).. There are 16 figures, 3 tables, and 42 references:
.7 Soviet-bloc and 31 non-Soviet-bloc.

Table 1. Coulomb excitation of levels (spin 2^+) in even-even nuclei.

Legend: (1) Isotope, (2) level energy, Mev, (3) excitation probability,
(4) level lifetime, 10^{-13} sec, (5) ratio of $B(E2)\uparrow$ to the same quantity
as estimated for a one-particle model (the nuclear radius in the calcula-
tions was assumed to be $R_0 = 1.2 \cdot 10^{-13} A^{1/3}$ cm).

Table 2. Coulomb excitation of levels in nuclei with odd A and in odd-
odd B^{10} nuclei.

Legend:· (1), (2), (3) see Table 1, (6) nuclear spin in ground state,
(7) nuclear spin in excited state, (8) partial lifetime of the level
relatively to the electric quadrupole transition, sec.

Legend to Table 3: (1) Nucleus, (2) calculated value of B(E2) as taken
from Ref. 16, (3) experimental value of B(E2).
Card 3/6

ANDREYEV, D.S.; VASIL'YEV, V.D.; GUSINSKIY, G.M.; YEROKHINA, K.I.;
LEMBERG, I.Kh.

Investigation of the Coulomb excitation of nuclear levels by the
aid of accelerated multiply charged ions. Izv. AN SSSR. Ser.
fiz. 25 no.7:832-847 Jl '61.   (MIRA 14:7)
            (Nuclear reactions)   (Ion beams)

ALKHAZOV, D.G.; GRINBERG, A.P.; GUSINSKIY, G.M.; YEROKHINA, K.I.;
        LEMBERG, I.Kh.

Coulomb excitation of odd A nuclei by multiply-charged ions.
Zhur.eksp.i teor.fiz. 37 no.6:1530-1542 D '59.   (MIRA 14:10)

1. Leningradskiy fiziko-tekhnicheskiy institut AN SSSR.
        (Nuclear reactions)   (Ions)

24.6300

40097
S/048/62/026/008/008/028
B163/B104

AUTHORS: Gusinskiy, G. M., Lemberg, I. Kh., and Treybal, Z.

TITLE: Angular distribution of the γ-radiation emitted with the discharge of the first excited levels of the nuclei Ti^{47} and V^{51} and the level 246 kev of Se^{77}

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 8, 1962, 1014 - 1018

TEXT: The angular distributions of the γ quanta emitted with the transition from the 160 kev Ti^{47}, 323 kev V^{51}, and 246 kev Se^{77} levels to the ground state were measured in order to determine the spin values of the levels and the relative intensity of E2- and M1-radiation. The levels were excited by bombardment with triply charged 16.5 (for V^{51} and Se^{77}) and 18.3 (for Ti^{47}) Mev N^{14} ions from the cyclotron of the FTI. The angular distribution was measured simultaneously by 4 scintillation detectors arranged at angles of $0°$, $30°$, $60°$, and $90°$ to the ion beam. The pulses
Card 1/2

Angular distribution of the ...

S/048/62/026/008/008/028
B163/B104

from each of the 4 detectors were recorded in four groups of a 128-channel amplitude analyzer. The surface of the isotopically enriched targets, titanium oxide, metallic vanadium and selenium, measured 6×6 cm^2. From the results it is concluded that spin and parity of the first level of Ti^{47} at 160 kev are most probably $\frac{5^-}{2}$, but $\frac{7^-}{2}$ cannot be completely excluded. Spin and parity of the first level of V^{51} at 323 kev are $\frac{5^-}{2}$. The ratio of the amplitudes of the E2 - and M1 - transitions is $\delta = 0.51^{+0.15}_{-0.10}$ and the life time of the 323 kev level $(2 \cdot 75^{+0.85}_{-0.63}) \cdot 10^{-10}$ sec. Spin and parity of the 246 kev level of Se^{77} is $\frac{3^-}{2}$, the E2 - M1 - amplitude ratio $\delta = +0.19^{+0.02}_{-0.03}$, and the life time of the 246 kev level $\tau = (0.50 \pm 0.26) \cdot 10^{-10}$ sec. There are 4 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk
              SSSR (Physicotechnical Institute imeni A. F. Ioffe of the
              Academy of Sciences USSR)

Card 2/2

A.........., D. G.; GAL'PERIN, L. N.; GUSINSKIY, G. M.; LEMBERG, I. Kh.; NABICHVRISHVILI,
. A.

"_nvestigations of the Polarization of Gamma Radiation Emitted in the Case
of Coulomb-Excitation of Some Nuchei with Odd-A."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb 64.

FTI (Physico Technical Inst)

., G.; VASIL'YEV, V. D.; GUSINSKIY, G. M.; LEMBERG, I. Kh.; NABICHVFISHVII.',

..gular Distributions of Gamma-rays Emitted in the Case of Coulomb-Excitation
.. Nuclei with Odd-A."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb 64.

FTI (Physico Technical Inst)

L 14486-65   EWT(m)   DIAAP/ASD(a)-5/SSD/BSD/AFWL/AS(mp)-2/ASD(p)-3/ESD(gs)/ESD(t)
ACCESSION NR: AP4048639   S/0048/64/028/010/1683/1694

AUTHOR: Alkhazov, D.G.; Vasil'yev,V.D.; Gusinskiy,G.M.; Lemberg,I.Kh.; Nabichvrish-
vili,V.A.

TITLE: Angular distribution of gamma-radiation emitted in Coulomb excitation of
odd-A nuclei /Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in
Tbilisi 14-22 Feb 1964/

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.10, 1964, 1683-1694

TOPIC TAGS: nuclear physics, odd even nucleus, excited state, coulomb field, ion
bombardment, gamma emission, nuclear spectroscopy

ABSTRACT: The angular distribution of the γ-rays resulting from Coulomb excitation
of the following odd nuclei was investigated: Ne^{21}, Sc^{45}, Ti^{47}, Fe^{57}, Zn^{67}, Ga^{69},
Se^{77}, Rb^{85}, Rb^{87}, Pd^{105}, Sb^{123}, Te^{123}, I^{127}, Cs^{133} and Sm^{147}. All the nuclei except
Ne^{21} were excited by bombardment with 16.1 MeV nitrogen ions. The Ne^{21} γ-rays were
obtained by bombarding an aluminum target with 24 MeV Ne^{21} ions. The γ-radiation
was recorded at 0, 30, 60 and 90° with four NaI scintillators, the relative effi-
ciencies of which were determined by counting the γ-rays from standard radioactive

1/2

L 14486-65
ACCESSION NR: AP4048639   O

sources located at the target position. The coefficients of second and fourth de-
gree Legendre polynomials in the expansion of the angular dependence of the inten-
sity were obtained by the method of least squares, but the coefficients of the
fourth degree polynomials were so small that they are disregarded in subsequent ana-
lyses. The portion of the anisotropy due to the Coulomb excitation process was cal-
culated by a standard method, and the remaining anisotropy, after correction for
instrumental effects, is ascribed to $\gamma-\gamma$ correlations in cascade processes. From
this the residual anisotropy, the spin and parity of the residual state and the E2
and M1 transition branching ratio were determined (in some cases tentatively), and
the results are tabulated. Reduced M1 transition probabilities were obtained for 11
of the nuclei, and these and the corresponding theoretical single-particle values
are tabulated. The data concerning each of the nuclei are discussed in detail with
numerous references to the literature. Orig.art.has: 5 formulas, 2 figures and 3
tables.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00

SUB CODE: NP   NR REF SOV: 011   OTHER: 026

2/2

L 26683-66   EWT(m)   DIAAP   JD/JH

ACC NR: AP6016897   SOURCE CODE: UR/0367/65/002/005/0794/0795

AUTHOR: Gusinskiy, G.M.—Gusinski, G. M.; Yerokhina,K.I.—Erokhina, K.I.; Lemberg,I.Kh

ORG: Physicotechnical   Institute im. A. F. Ioffe, AN SSSR (Fiziko-tekhnicheskiy
institut AN SSSR)

TITLE: Lifetime of the 1.46 mev level of Ar sup 40   5.2

SOURCE: Yadernaya fizika,v. 2, no. 5, 1965, 794-795   B

TOPIC TAGS: argon, electron transition, Coulomb excitation, aluminum, even even
nucleus

ABSTRACT: The probability of the electric quadruple transition
of B(E2) from the ground state of Ar^{40} to the first excited level
has been determined by investigating the Coulomb excitation of
this level. The 1.46 mev level was excited by bombarding aluminum
with 48 mev argon ions. Measurement of B(E2) resulted in the
quantity $(0.049 \pm 0.010)e^{2}.10^{-48}$ cm^{4}. From the known relation
between B(E2) and the lifetime τ of the even-even nuclei levels
with the spin and parity 2^{+} it is possible to calculate the value
of τ. From their data, the authors obtained the value
$\tau = (1.2 \pm 0.3).10^{-12}$ seconds. Orig. art. has: 1 figure and 1 formula. [JPRS]

SUB CODE: 20 / SUBM DATE: 15May65 / ORIG REF: 002 / OTH REF: 002

Card 1/1   BLG

ALKHAZOV, D.G.; GAL'PERIN, L.N.; GUSINSKIY, G.M.; LEMBERG, I.Kh.;
    NABICHVRISHVILI, V.A.

Polarization of gamma rays emitted in the Coulomb excitation of
certain nuclei with odd A. Izv. AN SSSR.Ser. fiz. 29 no.5:787-
793 My '65.   (MIRA 18:5)

L 31406-66   EWT(m)

ACC NR: AP6022574   SOURCE CODE: UR/0048/66/030/003/0449/0454

AUTHOR: Gusinskiy, G. M.; Lemberg, I. Kh.

ORG: none

TITLE: Angular distribution of nuclear gamma radiation emitted as a result of coulomb excitation of Cu sup 65, Nb sup 93, Pd sup 105, and Sn sup 117

SOURCE: AN SSSR. Isvestiya. Seriya fizicheskaya, v. 30, no. 3, 1966, 449-454

TOPIC TAGS: angular distribution, gamma radiation, gamma quantum, coulomb excitation, excited nucleus, nuclear spin, gamma transition, alpha bombardment, cyclotron, MEV, accelerator, scintillation counter, pulse analyzer

ABSTRACT: The angular distribution of gamma quanta emitted from Coulomb excited nuclei was studied to determine the excited spin levels and relative intensities of the E2 and M1 transitions. Bombardment was accomplished with alpha-particle having energies of 7.24, 7.85, and 9.6 mev, and 48.3 mev nitrogen ions accelerated in the Physical Technical Institute cyclotron. Measurements were made at backscatter angles of 0 to 90 deg with two NaI(Tl) scintillation crystals 7 cm from the target. A 128-channel pulse amplitude analyzer was used to record the scintillator outputs. Results of angular measurements, given in a table, indicate the characteristics of the levels and transitions. Specific experiments performed on each of the nuclei are detailed, and the reduced transition probabilities and partial lifetimes of the levels are tabulated. Orig. art. has: 2 formulas and 2 tables. [JPRS]

Card 1/1 SUB CODE: 20, 18/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 012

IVANOV, N.P.; GUSINSKIY, M.N.; TESTKOV, A.D.

Use of a discharge tube with a hollow cathode in atomic-absorption spectrophotometry. Zhur. anal. khim. 20 no.10:1133-1135 '65.
(MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv i Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.

GUSINSKIY, N.

Visit to Brazilian trade unions. Sov. profsoiuzy 19 no.22:
42-43 N '63. (MIRA 17:1)

1. Chlen TSentral'nogo komiteta professional'nogo soyuza
rabotnikov gosudarstvennykh uchrezhdeniy.

TETYAYEVA, M.B.; GUSISHVILI, G.G.; YANKOVSKAYA, TS.L.

Sugar level in the blood of dogs following the transection of both
vagosympathetic trunks in the neck region. Mat. po evol. fiziol.
1:268-283 '56.   (MIRA 11:1)
        (PNEUMOGASTRIC NERVE)   (BLOOD SUGAR)

GUSKA, N.I. [Huska, N.I.]

        Effect of the central nervous system on absorption processes in
        the small intestine. Pratsi Od. un. zbir. mol. vchen. un. 148
        no.3:237-248 '58   (MIRA 13:3)

        1. Nauchnyy rukovoditel' - prof. R.Y. Faytel'berg.
            (Intestines--Permeability)

GUSKA, N. I.: Master Biol Sci (diss) -- "The role of the nervous system in regulating the processes of absorption in the small intestine of the dog". Odessa, 1959. 16 pp (Min Higher Educ Ukr SSR, Odessa State U im I. I. Mechnikov), 150 copies (KL, No 13, 1959, 102)

GUSKA, N. I.

Change in the intake processes in the small intestine with various states of the central nervous system. Uch. zap. Tir. gos. ped. inst. no.9:161-176 '60.   (MIRA 16:1)

(INTESTINES—INNERVATION)

GUSKA, N.I.

Effect of the electric stimulation of the reticular formation on glucose absorption in the small intestines of dogs, Izv. AN Mold. SSR no.5:78-86 '63.

(MIRA 17:11)

GUSKE, FRANZ

Fryzjerstwo i kosmetyka. Tlum. Pawel Heinzelman.

Warszawa, Poland. Wydawn. Przemyslu Lekkiego i Spozywczego, 1956. 288 p.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 8
August 1959.

Uncl.

ACCESSION NR: AP4011742   S/0181/64/006/001/0092/0095

AUTHORS: Kudzin, A. Yu.; Guskina, L. G.; Petrushkevich, I. S.

TITLE: Stabilization of domain structure in single crystals of barium titanate

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 92-95

TOPIC TAGS: domain structure barium titanate, barium titanate single crystal,
domain structure stabilization, sublattice, sublattice vacancy, dielectric,
dielectric hysteresis, hysteresis loop, nickel oxide, tantalum oxide

ABSTRACT: The dielectric hysteresis loops of single crystals of barium titanate
containing tantalum oxide and nickel oxide are anomalous. All samples tested
contained about 0.3 molecular % tantalum oxide and from 0 to 0.5 molecular % nickel
oxide. Increase in nickel content led to a decrease in Curie point. Optimal
conditions for growing the barium titanate were obtained with nickel oxide concen-
trations of 0.3-0.4 molecular %. The anomalous loops were found to be stable
relative to external effects, this relation resulting from stabilization of domain
structure. The rate of forming the domain structure during application and removal
of the electrical field was rather large, since twin hysteresis loops were noted

Card 1/2

ACCESSION NR: AP4011742

at frequencies up to 10 kilocycles. It is concluded that vacancies in the barium sublattice, resulting from introduction of pentavalent ions, may serve as centers for fixing the domain walls. Orig. art. has: 5 figures.

ASSOCIATION: Dnepropetrovskiy gosudarstvennyxy universitet (Dnepropetrovsk State University)

SUBMITTED: 08Jul63   DATE ACQ: 14Feb64   ENCL: 00

SUB CODE: PH   NO REF SOV: 004   OTHER: 001

Card 2/2 ·

GUS'KOV, A.A.

Determining the angle of drift by the mean position of the rudder
blade. Trudy MGI 20:96-99 '60.   (MIRA 13:10)
                    (Navigation--Research)

3, 5800 (1395)

32711
S/518/61/023/000/001/002
D045/D114

AUTHOR: Gus'kov, A. A.

TITLE: Microbarograph for registering microfluctuations in atmospheric pressure caused by the passage of internal waves

SOURCE: Akademiya nauk SSSR. Morskoy gidrofizicheskiy institut. Trudy, v. 23, 1961. Fizika morya, 148-150

TEXT: A microbarograph (Fig. 1), developed by the author and used for registering microfluctuations of atmospheric pressure over various periods, is described. It consists of an hermetic chamber (1) with a heat insulator(2). An air tap (3) and a connecting pipe (4) are fixed to the right wall of the chamber. The former is used for adjusting the chamber pressure to the atmospheric pressure and the latter for connecting the capillary tubes with the tube (13) through which the outside air reaches the manometric casing (6). The terminals (12), to which the leads from the wire-type resistive transducers (8) and the thermistor (11) are attached, are located on the left side of the chamber. The manometric casing, 120 mm in diameter and made of phosphoritic bronze, records changes in the atmospheric pressure of the outside air.

Card 1/A3

32711
S/518/61/023/000/001/002
Microbarograph for registering ...   D045/D114

This casing is placed in the hermetic chamber where constant pressure is
maintained. A light rod (7) is fastened to the center of the casing; with
the aid of this rod, the movement of the casing caused by pressure changes in
the outside air is transmitted to wire resistive transducers. These trans-
ducers, resistance 200 ohms, are fixed to a metal plate (9), 0.08 mm in cross
section. One end of the plate is joined to the rod, the other to the bay
(10). The thermistor, used for controlling the temperature inside the cham-
ber, registers temperature changes of 0.1°C. The signal from the thermistor
is fed to an oscillograph and recorded on the same plate as that on which the
atmospheric pressure fluctuations are recorded. The signal from the trans-
ducer is amplified in a standard 8 АНЧ-7М (8 ANCh-7M) amplifier unit, which
permits a signal, proportional to the magnitude of the indicated pressure,
to be put onto the oscillograph loop. Certain design modifications for in-
creasing the sensitivity and scope of the microbarograph are mentioned.
Laboratory tests showed that the device was highly sensitive over a wide
range of periods and could be used for studying internal waves in the atmos-
phere. It could, in addition, be used for registering the vertical rocking
of a ship and for recording surface waves. A. M. Gusev is mentioned.

Card 2/3

Microbarograph for registering ...

There are 1 figure and 3 references.

SUBMITTED: June, 1960

32711
S/518/61/023/000/001/002
D045/D114

Card 3/4₃

S/169/62/000/005/053/093
D228/D307

AUTHOR: Gus'kov, A. A.

TITLE: Wind distribution at different heights in the atmo-
             sphere over Antarctica

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 5, 1962, 30-31,
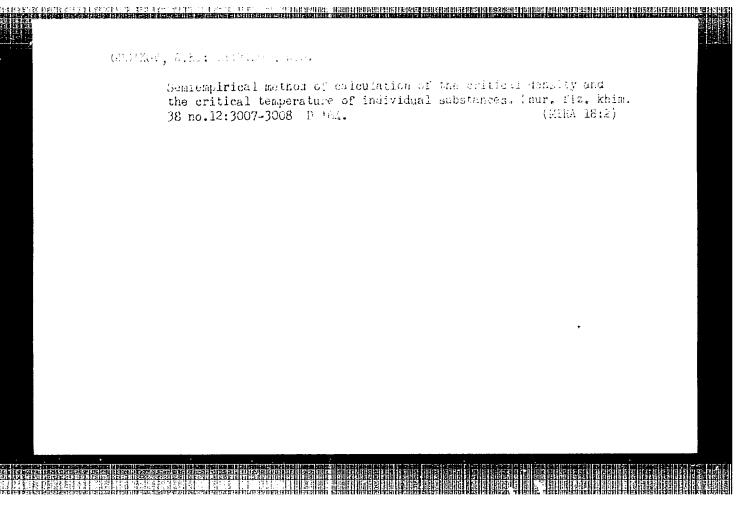   abstract 53211 (Inform. byul. Sov. antarkt. ekspedit-
             sii, no. 23, 1961, 22-26)

TEXT: On the basis of aerologic and meteorologic observations at
Soviet and foreign stations the monthly and the yearly meridional
components of the wind at different levels were calculated from the
data of the IGY observations. The obtained data confirm the assump-
tion about the existence of a settled anticyclone in the high lati-
tudes of East Antarctica. The region of heightened pressure appears
to be located between the geomagnetic pole and the pole of relative
inaccessibility. An analogous distribution of the wind's meridional
components was also obtained for the data of 1957, 1959, and the
first half of 1960./Abstracter's note: Complete translation._/

Card 1/1

ACC NR: AP7001365   (A)   SOURCE CODE: UR/0413/66/000/021/0032/0032

INVENTOR: Gus'kov, A. K.; Bobkov, S. S.; Gribov, A. M.; Kolchin, I. K.; Zhakov, V. A.;
Kovalev, N. I.; Lisunova, M. B.; Sokolova, V. A.; Kuznetsova, S. N.; Butusova, V. A.

ORG: none

TITLE: Preparative method for a catalyst. Class 12, No. 187738

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 32

TOPIC TAGS: acrytonitrile, chemical synthesis, catalyst preparation, Catalysis

ABSTRACT: An Author Certificate has been issued for a preparative method for a
catalyst for the synthesis of acrylonitrile by oxidative ammonolysis of propylene.
A carrier with improved strength and heat resistance is prepared by molding, drying
and heating to 1200—1250 a mixture of Kaolin and α-alumina. The carrier is sub-
sequently impregnated with bismuth, molybdenum, and phosphorus compounds.   [BO]

SUB CODE: 07/ SUBM DATE: 01Apr64/. ATD PRESS: 5109

Card 1/1   UDC: 66.094.373

GUPKA, A.R.;

Semiempirical method of calculation of the critical density and
the critical temperature of individual substances. Zhur. fiz. khim.
38 no.12:3007-3008 D '64.   (MIRA 18:2)

GUS'KOV, A.M.

Prospects of the expansion of coal mining in the Nazarovo lignite
deposit. Ugol' 37 no.6:22-28 Je '62.   (MIRA 15:7)

1. Nachal'nik Nazarovskogo razrezoupravleniya.
            (Kansk-Achinsk Basin—Lignite)
                (Strip mining)

GUS'KOV, A.M.; ZHEDYAYEVSKIY, M.A.

Hydraulic mining at the Nazarovo strip mine. Ugol' 39 no.5:41-42
My '64.   (MIRA 17:8)

1. Nazarovskiy kar'yer.

GORBOVETS, M.N.; GUS'KOV, A.S.

Device for placing reinforced concrete columns in frame-panel
construction work. Stroi.i dor.mashinostr. no.11:34-35 N '56.
(Reinforced concrete construction)

GUS'KOV, A.V.; SHEKHTER, V.Ya.; BYSHOVA, N.S.

Standard technological processes for the manufacture of body components
in serial and small scale serial production. Avt. prom. no.5:28-37
My '60.   (MIRA 14:3)

1. Nauchno-issledovatel'skiy institut tekhnologii avtomobil'noy promy-
shlennosti.
        (Automobiles—Design and construction)

GUS'KOV, A.V.

Cold pressing of automobile parts from coiled steel. Avt. prom.
no. 1:32-34 Ja '61. (MIRA 14:4)

1. Nauchno-issledovatel'skiy tekhnologicheskiy institut
avtomobil'noy promyshlennosti.
(Steel, Automobile)

GUS'KOV, A.V.

Over-all automation of production of bushed roller chains.
Trakt. sel'khozmash. 31 no.11:35-37 N '61.   (MIRA 14:12)

1. Predsedatel' Gosudarstvennoy priyemnoy komissii.
                    (Agricultural machinery industry)
                    (Automation)

GUS'KOV, Aleksandr Vasil'yevich, inzh.; KUZNETSOV, D.F., red.;
GRIGOR'YEVA, I.S., red. izd-va; BELOGUROVA, I.A., tekhn.
red.

[Manufacture of shaped parts by the extrusion method in the
Czechoslovak Socialist Republic; stenographic record of a
lecture....]Izgotovlenie fasonnykh detalei metodom vydavliva-
niia v Chekhoslovatskoi Sotsialisticheskoi Respublike; steno-
gramma lektsii, prochitannoi v LDNTP na kratkosrochnom semi-
nare "Shtampovka kholodnym vydavlivaniem." Leningrad, 1962.
26 p.   (MIRA 15:9)
                         (Extrusion (Metals))
             (Czechoslovakia--Machinery industry)

S/182/62/000/007/002/007
D040/D113

AUTHOR: Gus'kov, A.V.

TITLE: Czechoslovak dies for the fabrication of shaped machine parts
             by press forging
PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 7, 1962, 10-14

TEXT: A general review is made of die production for cold forging in the
USSR where research centers of the machine industry are working on new pro-
duction processes, and organizing and standardizing the die production and
forging processes in industry; the industry already has experience in forging
a variety of parts, e.g. the "Tatra" Automobile Works. General information
is given on the established rules for determining the required press effort
and load on the punch; the optimum deformation degrees for backward and for-
ward extrusion, at which the tool life makes the use of the process profit-
able; general die design features, centered punches being preferred to guide
pillars because the wall thickness of parts obtained with a centered punch
is more even, and punch breakage is less likely; shrink rings on the bottom
die halves. The chemical compositon of "19614", "19474","19721", "19650"

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L 11946-66   EWT(m)/T/EWA(m)-2

ACC NR: AP6000736   SOURCE CODE: UR/0386/65/002/009/0409/0413

AUTHOR: Vovenko, A. S.; Gus'kov, B. N.; Likhachev, M. F.; Lyubimov, A. L.; Matulenko, Yu. A.; Savin, I. A.; Stavinskiy, V. S.

ORG: Joint Institute of Nuclear Research (Ob"yedinennyy institut yadernykh issledovaniy)

TITLE: Elastic 180° scattering of π^+ mesons by protons at high energies

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 9, 1965, 409-413

TOPIC TAGS: elastic scattering, pion scattering, proton scattering, scattering cross section

ABSTRACT: This is a continuation of earlier measurements of the differential cross sections for elastic π^+p scattering in a small solid angle about 180° at π^+-meson l.s. momenta 3.15, 4.10, and 4.85 Gev/c, carried out at the High Energy Laboratory of the Joint Institute for Nuclear Research, the results of which for 3.15 Gev/c have already been published (Phys. Lett. v. 17, 68, 1965). In this paper the authors present the results for 4.10 and 4.85 Gev/c and compare the data obtained at all three energies. The measurements at the different energies were made with the same setup, which was already described earlier. The ratio of the number of elastic π^+-meson backward-scattering events registered by the apparatus to the total number of obtained photographs decreased with increasing energy (1:4.4, 1:11, and 1:40 at 3.15, 4.10, and 4.85 Gev/c, respectively). This was due not only to the decrease in the measured

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ACC NR: AP6000736

cross section, but to a deterioration of the background conditions as a result of the smaller spatial separation of the recoil protons from the beam particles. It was therefore required to apply more rigorous criteria for the selection of the backward elastic-scattering events than earlier. The effective c.m.s. solid angle of the set-up, calculated by the Monte Carlo method with account of the Coulomb scattering of the particles, was 3.87×10^{-3} sr for 4.10 Gev/c and 3.04×10^{-3} sr for 4.85 Gev/c. The effective cross sections, corrected for the nuclear interaction of the primary and back-scattered π^+ mesons and the recoil proton in the hydrogen target and in the counters, for the muon contamination of the beam, for decay of the scattered pion, for the efficiency of the scintillation counters and the electronic circuitry, and for the efficiency of the spark chambers, were (99 ± 12), (74 ± 11), and (37 ± 12) µb/sr for 3.15, 4.10, and 4.85 Gev/c, respectively. The previously deduced existence of a narrow peak of appreciable magnitude in the differential cross section of elastic $\pi^+ p$ backward scattering at 3.15 Gev/c is confirmed. Authors thank V. Birulev, T. Dobrovol'skiy, A. Zagorodnyi, I. Kakurin, V. Perevozchikov, and N. Chernyshov for help with the work, V. Kochkin for compiling the program and performing the computations, the proton synchrotron crew for stable operation of the accelerator, and the operating staff of the cryogenic division for supplying the liquid hydrogen. Orig. art. has: 1 figure, 1 formula, and 1 table.

SUB CODE: 20/   SUBM DATE: 15Sep65/   OTH REF: 002

Card 2/2

L 24846-66   EWT(1)/EWT(m)   IJP(c)

ACC NR: AP6007813   SOURCE CODE: UR/0120/66/000/001/0080/0083

AUTHOR: Gus'kov, B. N.; Matyushin, A. T.; Matyushin, V. T.

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TITLE: Series power supply for the gaps in a spark chamber

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1966, 80-83

TOPIC TAGS: spark gap, spark chamber, power supply, particle track

ABSTRACT: The authors compare the operation of series-fed and parallel-fed spark chambers. A multigap neon chamber was used in the experiment. The basic parameters of the chamber with both types of power supply are given and the experimental method is briefly outlined together with an explanation of the formulas used for calculating "chamber efficiency". This term is defined as

$$\eta = \frac{1}{n} \sum_{i=1}^{n} \eta_i = \frac{1}{nN} \sum_{i=1}^{n} k_i,$$

where η_i is the registration efficiency of a gap, N is the number of particle transits, and k_i is the number of ignitions of the i-th gap. The registration efficiency of a

UDC: 539.1.073

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